

# C-A OPERATIONS PROCEDURES MANUAL

### 3.20 Collider Experiment Fan Stand-down Procedure

#### 1. Purpose

This document defines procedures to be implemented by the Department Emergency Coordinator (DEC) in the event of an activation of an exhaust fan(s) in a building housing a Collider Experiment.

The purpose of this procedure is to protect property.

#### 2. Responsibilities

- 2.1 The DEC is responsible for executing this procedure. The DEC is chosen by virtue of the fact that the activation of an exhaust fan in a building containing a Collider experiment, if ignored, could result in significant property damage. The DEC succession list is assigned according to the table below.

Status	DEC
Operations Coordinator on shift	1. MCR Operations Coordinator 2. Local Emergency Coordinator/CAS 3. ESH Coordinator for RHIC
Shutdown	1. ESH Coordinator 2. Local Emergency Coordinator/CAS 3. ESHQ Division Head

- 2.1.1 The DEC may delegate the responsibility for the execution of this procedure to a knowledgeable operator.

#### 3. Prerequisites

- 3.1 Training in the operation of the Particle Accelerator Safety System (PASS) [C-A OPM 4-44](#) Operation of PASS, specifically for the use of the PanelView when an Oxygen Deficiency Hazard (ODH) is indicated.

#### 4. Precautions

- 4.1 Collider experiments are sensitive to environmental changes. Every attempt should be made to identify the cause of fan operation in an experiment building, to alert the affected experiment, and to contact the Access Controls Group experts for help in order to minimize temperature or humidity changes in experiment buildings.

## 5. Procedures

### “INPUTS” THAT WILL ACTIVATE FANS IN RHIC EXPERIMENT BUILDINGS

	Bldg / fan	Bldg / fans	Bldg / fans	Bldg / fans
	1002 / 2XEF1	1006 / 6XEF1 - 6XEF2	1008 / 8XSF1 - 8XEF1	1010 / 10XEF1 - 10XEF2
“INPUT”				
Explosive Gas	N/A	Yes	Yes	N/A
ODH	Yes	No	No	Yes
Manual ON	Yes	Yes	Yes	Yes
Fire	No	No	No	No

5.1 IF an “eXperiment Exhaust Fan” ON alarm is received on the **RHIC** PanelView at MCR\_2-4, or if you learn about an operating fan from a phone conversation, THEN:

5.1.1 Identify the building from the alarm or phone conversation.

5.1.2 Select the appropriate building (e.g. 2 o’clock, 6 o’clock) using the ODH/Gas/Fans menu on the PanelView

5.1.3 IF the fan was activated as a result of an ODH indication, THEN

5.1.3.1 IF the enclosure is in the No Access (NA) state, THEN

5.1.3.1.1 Alert the Cryogenics Group of the location of the alarm, and the state of the fans and vents.

5.1.3.1.2 Verify that the fans turn off when the alarm condition is cleared.

5.1.3.1.3 Contact an Access Controls Technician to turn off the fan(s) if it does not turn off when the alarm condition is cleared.

5.1.3.2 IF the enclosure is in a state other than NA, THEN

5.1.3.2.1 Alert the Cryogenics Group of the location of the alarm, and the state of the fans and vents.

5.1.3.2.2 Account for personnel in the enclosure

5.1.3.2.3 Prepare to allow the Cryogenics Group to make a Controlled Access into the enclosure.

5.1.3.2.4 Verify that the fans turn off when the alarm condition is cleared.

5.1.3.2.5 Contact an Access Controls Technician to turn off the fan(s) if it does not turn off when the alarm condition is cleared.

5.1.4 IF the fan was activated as a result of an Explosive Gas indication, THEN

5.1.4.1 IF the Explosive Gas Level “thermometer” reads EVAC, THEN

- 5.1.4.1.1 Alert the experiment of the alarm and the state of the fans and vents.
- 5.1.4.1.2 Verify that the experiment orders all personnel to evacuate the enclosure.
- 5.1.4.1.3 Account for personnel in the enclosure.
- 5.1.4.1.4 Verify that the fans turn off when the alarm condition clears.
- 5.1.4.1.5 Contact an Access Controls Technician to turn off the fan(s) if it does not turn off when the alarm condition is cleared

5.1.4.2 IF the Explosive Gas Level “thermometer” DOES NOT read EVAC, THEN

- 5.1.4.2.1 The fans should be off
- 5.1.4.2.2 Look at the alarm history and determine if the fan operation was preceded by a L1 (level 1) and L2 (level 2) alarm.
- 5.1.4.2.3 IF the fan operation was preceded by a L1 and L2 alarm, THEN fan operation was premature – alert the experiment of the potential hazard and report the premature fan operation to an Access Controls Technician. Turn off the fan using the pushbutton at MCR\_2-4.

**Note:**

The Fan pushbutton at MCR\_2-4 will turn off fans only if no condition exists that tells the fan to turn on.

- 5.1.4.2.4 IF the fan operation was not preceded by a L1 and L2 alarm THEN turn off the fan using the pushbutton at MCR\_2-4 AND contact an Access Controls Technician to fix the problem and to turn the fans off if they do not go off when commanded to do so by the MCR pushbutton.
- 5.1.4.2.5 Verify that the fans turn off when the alarm condition clears

5.1.5 IF the fan activation was not the result of an ODH or Explosive Gas indication THEN it was the result of manual operation of the fan switch, THEN do the following:

- 5.1.5.1 Send an operator or CAS technician to the site to determine if the fan was turned on to purge smoke from the enclosure.

5.1.5.2 IF the fan was turned on to purge smoke, THEN turn if off when the hazard is cleared.

5.1.5.3 IF the fan was not turned on to purge smoke, then the CAS technician shall attempt to

5.1.5.3.1 determine why the fans were turned on AND

5.1.5.3.2 manually turn the fans off if no hazard exists.

**6. Documentation**

None

**7. References**

7.1 [C-A OPM 4.44 Operation of PASS](#)

7.2 [C-A OPM 3.1 Procedures to be Implemented by the DEC](#)

**8. Attachments**

None